



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0811; Directorate Identifier 2008-NE-41-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Corporation Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to certain Rolls-Royce Corporation (RRC) AE 3007A series turbofan engines. The existing AD currently requires removing certain high-pressure turbine (HPT) stage 2 wheels, or performing inspections on them, and reduces their approved life limits. This proposed AD would clarify the AE 3007A turbofan engine model applicability, would further reduce the approved life limits of affected HPT stage 2 wheels, and would eliminate the inspections required by the existing AD. We are proposing this AD to prevent uncontained failure of the HPT stage 2 wheel, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Rolls-Royce Corporation, 450 South Meridian Street, Mail Code NB-01-06, Indianapolis, IN 46225, phone: 317-230-1667; email: CMSEindyOSD@rolls-royce.com; Internet: www.rolls-royce.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kyri Zaroyiannis, Aerospace Engineer, Chicago Aircraft Certification Office, Small Airplane Directorate, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; phone: 847-294-7836; fax: 847-294-7834; email: kyri.zaroyiannis@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2009-0811; Directorate Identifier 2008-NE-41-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On September 1, 2010, we issued AD 2010-19-01, Amendment 39-16429 (75 FR 57660, September 22, 2010), for RRC AE 3007A series turbofan engines with an HPT stage 2 wheel, part number (P/N) 23069438, 23069592, 23074462, 23074644, 23075345, or 23084520, installed. AD 2010-19-01 requires removing certain HPT stage 2 wheels, or performing repetitive eddy current inspections (ECIs) or surface wave ultrasonic test (SWUT) inspections on them for cracks. AD 2010-19-01 also reduces the approved life limits of certain HPT stage 2 wheels. AD 2010-19-01 resulted from reports of cracked HPT stage 2 wheels. We issued AD 2010-19-01 to prevent uncontained failure of the HPT stage 2 wheel, damage to the engine, and damage to the airplane.

Actions Since Existing AD Was Issued

Since we issued AD 2010-19-01 (75 FR 57660, September 22, 2010), RRC did additional analysis and concluded that lower life limits for the affected HPT stage 2 wheels are necessary. RRC based their results on inspection data collected under AD 2010-19-01. In addition, we determined that it is appropriate to establish the new lower life limit to remove the parts from service, and to eliminate the inspection requirements that were needed to provide additional data in support of the analysis for the reduced life

limits. We also changed the applicability from RRC AE 3007A series turbofan engines to AE 3007A, A1, A1/1, A1/2, A1/3, A1P, A1E, and A3 turbofan engines, for added clarity. The AE 3007A2 turbofan engine is not included in the applicability because affected HPT stage 2 wheels are not installed on that engine.

Relevant Service Information

We reviewed RRC Alert Service Bulletin (ASB) No. AE 3007A-A-72-414, Revision 1, dated December 5, 2012. The ASB lists the lower approved life limits of the affected HPT stage 2 wheels.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in RRC AE 3007A, A1, A1/1, A1/2, A1/3, A1P, A1E, and A3 turbofan engines with affected HPT stage 2 wheels, installed.

Proposed AD Requirements

This proposed AD would clarify the AE 3007A turbofan engine model applicability from stating AE 3007A series turbofan engines, to stating AE 3007A, A1, A1/1, A1/2, A1/3, A1P, A1E, and A3 turbofan engines. This proposed AD would also further reduce the approved life limits of affected HPT stage 2 wheels, and would eliminate the initial and repetitive ECIs and SWUT inspections on HPT stage 2 wheels for cracks as required by the existing AD 2010-19-01 (75 FR 57660, September 22, 2010).

Costs of Compliance

We estimate that this proposed AD would affect 18 engines installed on airplanes of U.S. registry. We also estimate that a replacement HPT stage 2 wheel would cost about \$145,524, and that it would be replaced during engine shop visit at no additional labor

cost. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$2,619,432.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2010-19-01, Amendment 39-16429 (75 FR 57660, September 22, 2010), and adding the following new AD:

Roll-Royce Corporation (Formerly Allison Engine Company): Docket No.

FAA-2009-0811; Directorate Identifier 2008-NE-41-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2010-19-01, Amendment 39-16429 (75 FR 57660, September 22, 2010).

(c) Applicability

This AD applies to the following Rolls-Royce Corporation (RRC) AE 3007A, A1, A1/1, A1/2, A1/3, A1P, A1E, and A3 turbofan engines:

(1) With an installed high-pressure turbine (HPT) stage 2 wheel, part number (P/N) 23084520, or

(2) With an installed HPT stage 2 wheel, P/N 23069438, 23069592, 23074462, 23074644, or 23075345, except for the HPT stage 2 wheel serial numbers listed in Table 2 through Table 5 of RRC Alert Service Bulletin (ASB) No. AE 3007A-A-72-414, Revision 1, dated December 5, 2012. Those HPT stage 2 wheels maintain their existing approved life limits.

(d) Unsafe Condition

This AD was prompted by stress and lifing analysis resulting in lower approved life limits for certain HPT stage 2 wheels. We are issuing this AD to prevent uncontained failure of the HPT stage 2 wheel, damage to the engine, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) For HPT stage 2 wheels, P/N 23069438 and P/N 23069592, do the following:

(i) For HPT stage 2 wheels that have 9,500 cycles since new (CSN) or more on the effective date of this AD, remove the HPT stage 2 wheel from service within 15 cycles-in-service (CIS) after the effective date of this AD.

(ii) After the effective date of this AD, do not approve for return to service any engine with an HPT stage 2 wheel, P/N 23069438 or P/N 23069592, that exceeds the new life limit of 9,500 CSN.

(2) For HPT stage 2 wheels, P/N 23074462, do the following:

(i) For AE 3007A1E turbofan engines with HPT stage 2 wheels installed that have 7,500 CSN or more on the effective date of this AD, and for the AE 3007A, A1, A1/1, A1/2, A1/3, A1P, and A3 turbofan engines with HPT stage 2 wheels installed that have 9,500 CSN or more on the effective date of this AD, remove the wheel from service within 15 CIS after the effective date of this AD.

(ii) Thereafter:

(A) Do not approve for return to service any AE 3007A1E turbofan engine with an HPT stage 2 wheel, P/N 23074462, installed, that exceeds the new life limit of 7,500 CSN; and

(B) Do not approve for return to service any AE 3007A, A1, A1/1, A1/2, A1/3, A1P, and A3 turbofan engines with an HPT stage 2 wheel, P/N 23074462, installed, that exceeds the new life limit of 9,500 CSN.

(C) Throughout the life of the HPT stage 2 wheel, always use the lowest life limit applicable to any engine model in which the part was used in service. If life usage records are not sufficient to identify all engine models in which the part has been flown, the lowest life applicable to any engine model for which the part is eligible must be used.

(3) For HPT stage 2 wheels, P/N 23074644 and P/N 23075345, do the following:

(i) For HPT stage 2 wheels that have 9,500 CSN or more on the effective date of this AD, remove the HPT stage 2 wheel from service within 15 CIS after the effective date of this AD.

(ii) Thereafter, do not approve for return to service any engine with an HPT stage 2 wheel, P/N 23074644 or P/N 23075345, installed, that exceeds the new life limit of 9,500 CSN.

(4) For HPT stage 2 wheels, P/N 23084520, do the following:

(i) For HPT stage 2 wheels that have 23,000 CSN or more on the effective date of this AD, remove the HPT stage 2 wheel from service before the next flight after the effective date of this AD.

(ii) Thereafter, do not approve for return to service any engine with an HPT stage 2 wheel, P/N 23084520, installed, that exceeds the new life limit of 23,000 CSN.

(f) Alternative Methods of Compliance

The Manager, Chicago Aircraft Certification Office, may approve alternative methods of compliance for this AD. Use the procedures 14 CFR 39.19 to make your request.

(g) Related Information

(1) For more information about this AD, contact Kyri Zaroyiannis, Aerospace Engineer, Chicago Aircraft Certification Office, Small Airplane Directorate, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; phone: 847-294-7836; fax: 847-294-7834; email: kyri.zaroyiannis@faa.gov.

(2) Refer to RRC ASB No. AE 3007A-A-72-414, Revision 1, dated December 5, 2012, for related information.

(3) For service information identified in this AD, contact Rolls-Royce Corporation, 450 South Meridian Street, Mail Code NB-01-06, Indianapolis, IN 46225, phone: 317-230-1667; email: CMSEindyOSD@rolls-royce.com; Internet: www.rolls-royce.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on August 1, 2013.

Robert J. Ganley,
Acting Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

[FR Doc. 2013-19162 Filed 08/07/2013 at 8:45 am; Publication Date: 08/08/2013]